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ABSTRACT

Although nonverbal behaviors have been shown to be learned, meaningful, systematic, and sometimes culture bound, kinesics, the science of body behavioral communication, has been a neglected factor in second language instruction and research, particularly in the area of academic listening. This paper describes steps taken to develop materials, methodology, testing, and research in the kinesic aspect of academic listening. For this purpose, videotapes were used extensively. A pilot study is reported that was designed to measure ESL students' learning of nonverbal cues and the effect of this learning on academic lecture comprehension and notetaking. Implications for future research include the generalizability of kinesics among academic lecturers and the cultural specificity of nonverbal behavior in academic lectures. This paper argues for inclusion of nonverbal training using both videotapes and live speakers in courses in nonnative academic listening. (Author)

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Kinesics in Academic Listening

Susan Lewis English

The importance of listening comprehension for nonnatives in an academic setting has been suggested in recent studies. Faculty members at one American university ranked listening, along with reading, as one of the two language skills most essential for success in their classes (Johns 1971). Chan and Beatty (1982) reported that 34 Chinese scholars and students who had been in the U.S. for six or more months perceived understanding lectures as their primary academic need.

The need for nonnatives to meet the challenge offered by academic lectures requires an identification of the sources of listening difficulties and a search for solutions. ESL textbooks and syllabuses in listening comprehension have succeeded in isolating many verbal sources of difficulty and have offered systematic instruction in academic listening skills. However, one aspect of the listening experience which seems to have been largely overlooked is the nonverbal content of the message.

According to Birdwhistell, who could be called the parent of nonverbal terminology, kinesics refers to "the science of body behavioral communication" (1968:101). Kinesics includes such body behaviors as gestures, facial expression, eye gaze, and posture, which are in turn related to factors outside the body such as proxemics (use of space) and chronemics (use of time) (Key 1977).

Research indicates that nonverbal behaviors are learned, meaningful, systematic, and sometimes culture-bound. Birdwhistell observed that "like language, infracommunicational body motion behavior is a structural system that varies from society to society and must be learned by the

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membership of a society if it is to interact successfully" (1968:94). People from different cultures "respond quite differently to identical body behaviors. It can be easily established that these differences in response are cultural rather than idiosyncratic; different cultures exploit the potential for body motion in differing ways" (1968:96). Just as speakers of one language may not hear all the phonemes of a second language, persons from a low kinesic culture may not "see" all the gestures of a high kinesic culture. Nonverbals contribute to the redundancy of the message but are not merely redundant elements. Multichannel redundancy, again according to Birdwhistell, "makes the content of messages available to a greater portion of the population than if one modality were used" (1970:107).

The spurt of growth in research into nonverbal behavior during the past decade has, according to Key (1977), come predominantly not from linguists but from humanists and other social scientists. The focus of that research has been on speaking rather than listening, often concerned with the control and exploitation of nonverbal cues by the speaker to accomplish certain communicative aims. This is evidenced in Hore and Paget (1975) and Key (1977). Such research has been undertaken to a limited extent by researchers and practitioners in ESL. Colton (1981), for example, looked at ESL teachers' controlled use of nonverbal cues to minimize cross-cultural misunderstanding in the classroom; Crossman (1982) suggested that students of ESL be taught to "move in Americanese"; Von Raffler-Engel (1980) advocated that bilingual speakers learn to become bi-kinesic as well.

Despite this small but growing interest in kinesics in second language

learning, Von Raffler-Engel labelled it a "neglected factor" in foreign language teaching, noting that "there is still no systematic approach to the teaching of nonverbal behavior as an integral part of human communication" (1980:225). With the notable exception of Murphy and Candlin's 1979 inveatigation of the role of kinesics in lecture comprehension, which cited cohesive and exophoric nonverbal devices as worthy of inclusion in nonnative language training (1979:40), little has been done to focus on the role of kinesics as a receptive, decoding skilll in second language listening.

This study follows Murphy and Candlin's suggestion that nonnative listeners receive training in the nonverbal cues of academic lectures. It describes steps taken to create materials, build a methodology, and test learning. It further reports on a pilot study to measure students' learning of nonverbal cues and the effect of this learning on their academic listening and notetaking. It is hoped that this paper will provide a model for future materials development, teaching methodology, testing, and research in this largely uncharted area.

Materials Development

Four color videotaped lectures in the philosophy of science by one female American speaker were selected as the basic instructional materials for a short course in kinesics at the Guangzhou English Language Center, People's Republic of China. A number of other available videotapes were eliminated because of their failure to meet the following criteria: (1) the speaker's facial expression, gestures, and body movement must be plainly visible; (2) the speaker must not be reading the lecture verbatim;

and (3) the lecture must have been delivered before a live audience. Two videotapes by other lecturers, one speaking English and the other Mandarin Chinese, were also chosen to demonstrate contrasting styles.

Lessons were developed based on the kinesic information gleaned from the videotapes. The lessons followed a progression of skills: definition of terms; identification of nonverbal cues; association of cues with their functions; comparison of speakers within and across cultures; use of nonverbal cues in notetaking; and application of observational skills to real academic lectures. The final lesson instructed students in techniques for effective use of a cassette tape recorder during lecture to free them for observation of nonverbal cues as an aid to notetaking.

Terminology in the instructional materials was kept to a minimum to avoid the complexities of linguistic and kinesic jargon. "Nonverbal cues" were defined as the use of gestures, facial expression, eye gaze, and body movement to signal meaning. The kind of meaning signalled by a nonverbal cue was labelled a "function".

Two 12-minute videotapes were analyzed for those nonverbal cues which provided information about the content of the lecture, as distinguished from those behaviors which carry information about the speakers themselves. To identify the functions signalled by cues, an analysis was made of each cue in conjunction with the meaning of the spoken text. Spoken discourse markers, which were called "verbal cues", were also noted. Examples of verbal and nonverbal cues to functions found in these videotapes are listed in Table 1. An instructors' script was made for each videotape listing a descriptor of each nonverbal cue, its function, any verbal cues

used simultaneously by the speaker, and the corresponding number on the numerical counter of the videotape recorder (VTR).

Insert Table 1 About Here

Methodology

A methodology was developed which would involve students in guessing, prediction, and data collection for hypothesis formation. In-class lessons exploited the separability of the audio from the visual mode on the VTR. One technique was to play a portion of the videotape silently and require students to guess the function of the visual cues they observed. Then the passage would be replayed with the accompaniment of the audio track so that students could confirm or disprove the accuracy of their guesses. The pause button on the VTR was sometimes used to focus on a particular nonverbal cue. Lessons progressed from observation of one or more cues in a 20 to 30-second segment to notetaking on an entire 12-minute lecture played silently and without interruption.

Out-of-class assignments required students to observe live speakers and gather data for in-class discussion and hypothesis formation. Emphasis was placed on the multiplicity of cues which may express one function, and on the multiplicity of function which may be expressed by one nonverbal cue (Appendix A). Students were asked to discriminate useful cues from those which are either idiosyncratic or not relevant to the content of the lecture.

Testing

In order to pretest and posttest function identification based on nonverbal cues, a multiple-choice format was selected because of its objectivity and ease in scoring and suitability for measuring receptive skills. The use of three or four choices was found to present too simple a task, while more than six choices proved too difficult. Therefore the author identified six functions which were signalled nonverbally in the videotapes. These functions were given descriptive names and simple definitions, which, along with the test directions, were printed at the top of the student answer sheet and also tape recorded for audio and visual explanation at the start of the test session. On the students' answer sheet a grid was constructed, listing the six functions as choices above the columns and 17 items beside the rows, with the first two items given as examples (Appendix B).

Videotapes were chosen as the testing medium because they offered a controlled and reusable format for testing. Two videotapes from the instructional series were set aside for use in testing only, and from each tape one segment particularly dense in nonverbal cues was identified. The test script noted the nonverbal cues to be tested and the corresponding numbers on the VTR numerical counter. Corresponding functions were reserved for the answer key.

For test administration, the videotaped segment was played without sound. Starting first with a 30-second warmup passage, the test administrator proceeded to the examples and then to each item in turn, pressing the pause button to catch the speaker in the pose of each nonverbal cue. The tester pronounced aloud the number of the item, waited 15 seconds, and

then proceeded to the next item.

The Pilot Study

A pilot study was conducted to investigate whether nonnative listeners could be taught to identify the functions of nonverbal cues in the videotaped academic lectures of one American speaker, and to determine whether this training would positively affect the listeners' academic listening and notetaking skills. The null hypothesis was tested--that there would be no significant differences between treatment and experimental groups on any of the tests at the conclusion of the study.

The subjects for this study were the 100 chemistry and biochemistry students (TOEFL 418-557) enrolled at the Guangzhou English Language Center, People's Republic of China. Ranging in age from 19 to 34, all had completed their undergraduate degrees at Chinese universities approximately 4 months before the start of the study. None of these native speakers of Chinese had lived abroad, and all had received 150 hours of English language training at the center.

For treatment the subjects were randomly divided into 3 groups, with Groups X and Y designated as treatment groups and Group Z as the control group. The Listening component of the Comprehensive English Language Test (Harris and Palmer 1970) was administered to establish lack of significant differences between groups at the start of the study.

Treatment consisted of six 50-minute classes over a three-week period. While experimental Group X received training in function identification based on nonverbal cues in the two videotaped training

lectures and the application of this skill to notetaking, experimental Group Y received similar training in function identification based on verbal discourse markers in the audio tapes of the training lectures and the application of this skill to notetaking. To control for differences in teaching style and classroom environment, the two experimental groups alternated between rooms and instructors. In addition to this in-class treatment, both groups were given out-of-class assignments in observing cues and collecting data. Control Group Z was involved in both pretesting and posttesting but was not assigned to any training class.

For testing this study made use of the two 12-minute color-videotaped and audiotaped lectures in the philosophy of science which had been set aside for that purpose. A four-part battery of tests was designed by the author:

I. Notetaking: Watch and listen to the videotaped lecture; then complete the outline as you watch and listen a second time (22 blanks).

II. Listening Comprehension: Answer written true-false statements based on the lecture without reference to notes (30 items).

III. Watching for Functions: Watch the silent videotaped lecture; when the tape stops, select from the six choices the function which is indicated by the nonverbal cue of the lecturer (15 items).

IV. Listening for Functions: Listen to the audiotaped lecture; when the tape stops, select from the six choices the function which is indicated by the verbal cue you heard last (15 items).

For pretesting, half of each group was administered Form A, while the other half of each group was given Form B, the two forms based on different videotapes and administered simultaneously in different testing rooms. For

For posttesting the forms, rooms, and administrators were reversed, this done to control for the testing effect.

Statistical analyses consisted of (1) repeated measures analysis of variance and (2) test for simple mean effects for each test across the three groups. No meaningful differences between groups were found; thus, the null hypothesis could not be disproven (Table 2). At the conclusion of the study, feedback elicited from subjects through small group discussion revealed that contamination between groups may have been a factor confounding the data. Subjects in experimental Groups X and Y, excited about their newly-gained knowledge, reported the content of each lesson of the treatment to their classmates in the other groups so that those students too might benefit from the course from which they had been excluded. For lack of conclusive quantitative data, then, analyses of the study were confined to evaluative and descriptive factors.

Insert Table 2 About Here

Discussion and Conclusions

The process of materials development and test construction for this study lead to the following observations. Birdwhistell's description of nonverbal elements as carriers of often redundant but sometimes unique information was confirmed. Nonverbal markers in general appeared to be more dense than verbal discourse markers, though a limited number of them seemed to be of direct use for academic listening and notetaking. Some nonverbal behaviors were found to carry information pertaining to lecture content while others conveyed information about the lecturers themselves. Some nonverbal cues were used uniformly both among American speakers and between Chinese and American speakers, while other cues appeared to be either idiosyncratic or culture-specific. As with the multiple meanings

and functions of linguistic lexical items, each nonverbal cue was used to express more than one function, and each function was expressed by more than one nonverbal cue.

In their evaluation of the training course in nonverbal cues, subjects in Group X identified six function signalled nonverbally which reportedly assisted them in their notetaking: topic change, emphasis, number, example, negation, and comparison. They noted such idiosyncratic nonverbal cues as lighting a cigarette as a signal to a topic change and scratching a beard as a signal to an example. Subjects noted the limited value of nonverbal cues to students who are busy taking notes and are therefore unable to watch the lecturer, but they praised use of a cassette tape recorder in the lecture hall as a means to freeing the listener to both watch and listen. They found striking differences between American and Chinese lecture styles, noting primarily the predictability of a Chinese university lecture, which follows a given outline or text, versus the unpredictability of an American university lecture--its independence from the text, frequent absence of a written outline, and digression from the topic. These fast learners (30 TOEFL points in 10 weeks) recommended three hours of instruction as necessary but sufficient to alert Chinese graduate students like themselves to the techniques for observation of nonverbal cues as an aid to notetaking abroad.

One subject further commented on nonverbal cues as an aid to enduring a lengthy and difficult lecture. This subject reported that nonverbal cues helped him to discriminate between important and unimportant information in the lecture, allowing him to reduce expenditure of mental energy on unimportant parts and to save his energy for full concentration on

important sections. This echoes Von Raffler-Engel's report that "preliminary findings from an experiment which is currently being conducted by this writer indicate that the amount of fatigue which is commonly associated with listening to a foreign language is considerably reduced w.en the listener is trained to look for nonverbal factors in addition to what he hears" (1980:235).

This paper clearly raises more questions than it answers. Research is needed to identify and quantify nonverbal behaviors and their meanings as used by academic lecturers both within and across cultures. The question of idiosyncraticity and cultural specificity versus generalizability across speakers and cultures needs to be examined further. The primary research question of the pilot study, the effect of nonverbal training on nonnative listening comprehension and notetaking, needs to be answered and at the same time extended to determining the effect of such training on native listening comprehension and notetaking.

The relationship between linguistic and paralinguistic codes needs to be defined for academic lectures. It may be useful to know whether the multiplicity of nonverbal cues which can express a given function is any greater or smaller than the range of linguistic cues available to a speaker for expressing one function. Similarly, the multiple meanings of one cue, the meanings of which may be narrowed by context, should be compared to the multiple meanings which linguistic lexical items can carry. The degree of variation between speakers and across cultures in the use of kinesics needs to be compared to the variation in the linguistic code between and across languages.

If certain nonverbal cues of academic lectures can be found to be

as systematic as other linguistic cues, and if their cultural specificity is established, then these cues could be identified as paralinguistic information to which a nonnative speaker may have limited access. If it could further be shown that training in these nonverbal cues positively affects listening comprehension or notetaking, then it would stand to reason that they should be made a part of training courses in nonnative academic listening. This would hold whether or not these cues were established as redundant elements, following the reasoning that nonnatives deserve access to as many channels of the spoken message as their native counterparts sitting beside them in lectures. They should be helped to exploit all aspects of the language's multichannel redundancy. For this purpose both videotapes and live speakers may be used.

A final implication of this study is that if kinesics are to be taught, they may be more suitably presented as a process, not a product. Since we lack a handy dictionary of nonverbal cues to functions in academic lectures, and since unquantified variation exists between speakers and sometimes even within the idiolect of one speaker, the task for listeners is to learn to become skilled observers of body language. At this primitive stage in our investigations, we might train listeners to become data gathers, observing their lecturers and making generalizations about the meanings of the nonverbal cues they use. Since students of higher education have the opportunity to observe a number of instructors over an extended period of time, they may be able to familiarize themselves with each speaker's nonverbal behaviors and their meanings. If students develop a conscious awareness of the nonverbal dimension in the academic lecture hall, perhaps making use of a cassette tape recorder to free themselves to some extent from the distracting business of notetaking,

they themselves may contribute information which will help guide the direction of future research in this developing field.

Table 1. Selected Functions, Nonverbal and Verbal Cues in Two Academic Lectures.*

Functions	Nonverbal Cues	Verbal Cues
1. Changing Topic	turning body	"all right"
	looking down	"O.K."
	changing position	"now"
2. Contrasting	turning head	"however"
	shifting eye gaze	"on the other hand"
3. Emphasizing	nodding head	"it's important to remember"
	pointing with finger	
	striking with hand	
4. Exemplifying	turning palm upwards	"for example"
	leaning on lectern	"let's say"
5. Ordering/Listing	counting on fingers	"first"
		"second"
		"last"
6. Summary/Restatement	folding hands	"so to review"
	standing squarely behind lectern	"as I said before"
		"again"

*Lectures II and II in the Philosophy of Science by Jorja Manos, UCLA-China Exchange Program, 1980.

Table 2. Means and Standard Deviations for Each Group on Test Battery.

Test	No. of Items	Group	Mean	S.D.
CELT Listening	50	X	29.17	5.66
		Y	27.07	4.78
		Z	27.90	5.74
Notetaking	22	X	9.90	4.37
		Y	8.43	4.01
		Z	9.37	4.85
Listening Comprehension	30	X	21.13	2.71
		Y	20.63	2.86
		Z	20.77	3.99
Watching for Functions	15	X	12.47	1.04
		Y	11.47	1.55
		Z	11.93	1.36
Listening for Functions	15	X	12.30	1.88
		Y	13.00	1.39
		Z	12.77	1.52

Appendix A

Task 1. Select one cue. Observe one American lecturer. Record the functions.

Cue: Speaker: Functions:

Task 2. Select one function. Observe one American lecturer. Record the cues.

Function: Speaker: Cues:

Task 3. Select one cue. Observe several American lecturers. List the functions.

Cue: Speaker: Functions:

Speaker: Functions:

Task 4. Select one function. Observe speakers from different cultures. Record the cues.

Function: Culture: Cues:

Culture: Cues:

Appendix B

Test 3. Watching for Functions

Definitions of Functions:

Comparison - showing the similarities between two or more things

Not True - showing that something is wrong or false

Number/Order - showing the number of items and the order in which they occur

Physical Description - showing the physical qualities (size, shape, relation of parts)

Process Description - indicating an action which continues and progresses, or showing how to do something*

Topic Change - ending one idea and starting a new one, as if starting a new paragraph

*A process may have many steps. The order of these steps will be defined not as "Process Description" but as "Number/Order."

Directions:

a. As you watch the silent excerpt from the videotape, observe the speaker's change of position and movement of her face, hands, and arms.

b. When the tape stops, blacken the circle below the function indicated by the speaker's body position, facial expression, and gestures.

c. Mark only one function for each number.

d. Refer to the definitions of functions above.

e. The first two numbers are given as examples.

Answer Sheet

	Comparison	Not True	Number/Order	Physical Description	Process Description	Topic Change
(Example) 1.	O	O	O	O	O	O
(Example) 2.	O	O	O	O	O	O
3.	O	O	O	O	O	O
4.	O	O	O	O	O	O
5.	O	O	O	O	O	O
6.	O	O	O	O	O	O
7.	O	O	O	O	O	O
8.	O	O	O	O	O	O
9.	O	O	O	O	O	O
10.	O	O	O	O	O	O
11.	O	O	O	O	O	O
12.	O	O	O	O	O	O
13.	O	O	O	O	O	O
14.	O	O	O	O	O	O
15.	O	O	O	O	O	O
16.	O	O	O	O	O	O
17.	O	O	O	O	O	O

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